



Fairfax County
VIRGINIA

GIS Excellence Awards Ceremony



November 17, 2010



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AGENDA

1. **Opening Introduction**

Gordon Jarratt

Enterprise Systems Division Director, Department of Information Technology

2. **Featured Speakers**

Pat Herrity

Springfield District Supervisor, County of Fairfax Virginia

Wanda Gibson

Director of the Department of Information Technology & Chief Technology Officer

Tom Conry

GIS & Mapping Services Branch Manager

3. **Presentation of Awards**

Pat Herrity, Wanda Gibson, & Tom Conry

4. **Closing**



GIS Excellence Awards

November 17th, 2010

The use of GIS technologies in the County has led to the work that you see posted in the hallways, on display by the exhibitors, and honored here at the GIS Excellence Awards.

As part of the GIS Day celebrations, the GIS Excellence Awards are given annually for outstanding uses of GIS technology by Fairfax County employees and agencies. The awards were created to recognize and celebrate those County employees and agencies which are effectively and innovatively using GIS technology. This year, over 40 submissions were received for the seven categories of recognition.

The awards have two categories recognizing individual and/or team accomplishments and five categories recognizing agency accomplishments. The following page lists the categories and their descriptions.

The awards were determined by a judging panel which included representatives from the George Mason University Department of Geography, Northern Virginia Community College GIS Certificate Program, and Esri.



2010 GIS Excellence Award Categories

Individual/Team Categories

FIRST, SECOND, AND THIRD PLACE AWARDS FOR EACH CATEGORY

Best GIS Cartographic Product/Presentation

This award is intended to showcase the power of GIS tools in creating accurate, instructive, and visually-pleasing maps. Criteria used to evaluate the entries include:

- clarity of purpose and intent
- success in clearly explaining spatial concepts
- visual balance and appeal
- inclusion of necessary map elements and conventions

Best Use of GIS for Analysis

This award is intended to showcase the power of GIS tools in undertaking sophisticated spatial analyses that aid County operations and answer significant questions. Criteria used to evaluate the entries include:

- complexity of analysis
- ingenuity of GIS methods for answering analytical questions
- project benefits to a team or department
- effective demonstration of the information and insight gained (e.g., diagrams, maps, presentations, reports, text)

Agency Categories

ONE AWARD PER CATEGORY

Best Use of GIS on the Web

- Presented to the agency with the best use of GIS interactivity, maps, and/or data on the internet or County intranet

Best Use of GIS for Public Outreach

- Presented to the agency with the best use of GIS to serve the public in such items as map documents, customer service operations, press relations, and public events

Most Significant Data Contributor

- Presented to the agency that has created or refined the most significant spatial data for the County

Best GIS Integration or Application Development

- Presented to the agency that has integrated GIS into their operations to the greatest degree and/or has created a significant GIS software application

Most Significant Progress

- Presented to the agency that has demonstrated the most progress in their use of GIS over the past year



Best GIS Cartographic Product/Presentation *Individual/Team Awardees*

Third Place

Environmental Mapping - Reston Master Plan Special Study

Harry Rado, Heidi Merkel, Faheem Darab, Richard Lambert, Sandi Beaulieu

Department of Planning & Zoning, Planning Division

Two maps were created to provide the Reston Master Plan Special Study Task Force geographic information about existing environmental conditions in the Reston-Herndon Suburban Center. The first map required significant effort to finding appropriate patterns and colors to allow for easy to read environmental thematic data. The second map utilized infrared imagery to present land cover types.

Second Place

2008-2009 Youth Crash Map

Brandi Horita

Fairfax County Police Department, Operations Support Bureau

The map was created to increase awareness of youth driving and the patterns of youth crashes in Fairfax County. The map concisely displays the spatial concentration of youth crashes along with stark demarcations of fatalities and the avoidable circumstances that led to them. Used in police district stations and as a part of public outreach efforts, this map encourages informed dialog regarding youth driver issues in Fairfax County.

First Place

Inventory of Historic Sites Map

Harry Rado, Indrani Sistla, Laurie Turkawski, Linda Cornish Blank, Greg Chase

Department of Planning & Zoning, Planning Division

Developed for the Fairfax County History Commission, the map and underlying data were created by a team of historians, GIS specialists, and a web architect to easily identify and track historic sites in Fairfax County. It was designed for both printed and digital viewing and is found on the web, libraries, Board of Supervisors' offices, and other locations. This map successfully met the unique challenge of locating hundreds of historic sites in a single easy to read map. Utilizing a grid system, a location index, and insets of historically dense areas, users can quickly appreciate the scope and spatial distribution of Fairfax's rich historic past.



Best Use of GIS for Analysis

Individual/Team Awardees

Third Place

Halloween Weekend DUI/DWI Directed Patrol

Brandi Horita

Police Department, Operations Support Bureau

This analysis project was completed to determine the optimum regions for increased police patrols focused on identifying indicators of impaired driving. A map was created to determine the correlation of alcohol related vehicle crashes and DWI arrests. Crashes occurring during the autumn months over the last seven years were mapped, and crashes for the current year were specifically identified. Having the view of both historical and current activity on one map provided users with strategic and tactical approaches to planning and conducting operations.

Second Place

Usage of AVL data to Determine Effectiveness of Fairfax County Patrol Officer Routes

Jeff Gallagher

Police Department, Information Technology Bureau

Utilizing the abundant data that the recently implemented 911 computer aided dispatch (CAD) system provides, a sophisticated spatial analysis of police service response was made possible. With information from an automated vehicle location (AVL) system, the locations of police vehicles on patrol were contrasted with recent call for service hotspots. This analysis yielded information that can optimize patrol routes for the efficient use of resources and faster response times.

First Place

Travel Time from Fire Stations

Keg Good

Fire & Rescue Department, Information Technology Branch

Response time to service calls is a major performance measure for the Fire & Rescue Department. The locations in the County that allowed for industry standard 4 and 8 minute response times were mapped. This was determined by performing network analysis on the new street centerline data in which street length, speed limits, one way designations, and special time factors were accounted for. Additionally, a proposed two minute standard was mapped in response to recommendations to the need for service of high rises in Tysons Corner area proposed development.



Best Use of GIS on the Web Agency Winner

Tier II Manager Emergency Response

Fire and Rescue Department

Paula E. Woodrum, W. Trice Burgess, Lt. Michael Landstreet, Eric Fisher

Replacing a static paper-based system, Fairfax County in conjunction with the Fairfax joint Local Emergency Planning Committee (FJLEPC) purchased the newly acquired Tier II Manager software. It is a web-based system that allows for the reporting, locating, risk analysis, and plume modeling of hazardous materials. Via wireless laptops, Hazardous Materials Response Team personnel are now able to access chemical inventories, reference material, and critical mapping information while operating on the scene of an emergency. Several GIS layers are available and the GIS application allows the user to identify features and measure areas and distances. Personnel also have the ability to create and upload plume models and overlay these plumes to show the threat zones involving any chemical release. This is critical information when determining areas of evacuation and protecting environmentally sensitive areas such as streams, water bodies, and wetlands. The plume models that are uploaded by the responders can also be accessed by off-site personnel. This capability provides command and emergency management personnel critical information during long-term incidents and helps with tactics and evacuation planning. This program has greatly enhanced the FRD's ability to plan and manage chemical emergencies through innovative use of web-based GIS functions.

Best Use of GIS for Public Outreach Agency Winner

South County Area Plans Review (APR) Public Outreach

Department of Planning & Zoning

Greg Chase, Harry Rado, Lilian Cerdeira, Clara Johnson

The Area Plans Review (APR) provides an opportunity for the public to participate in Fairfax County's land use planning process by submitting proposals to amend the area plan volumes of the Comprehensive Plan and/or the Comprehensive Plan Map. In previous years, information regarding the nominations submitted was made public by the DPZ's publication of a tabloid that was mailed to the subject area residents. The annual cost of printing and mailing the publication was approximately \$150,000 plus staff time. The APR is now distributed to residents through the DPZ website where interactive GIS location maps provide detailed information about each nomination. Updates to APR information are now immediate as opposed to the static nature of the printed publication. In addition to the cost savings, the online APR GIS maps have increased the efficiency of staff while making information more timely and accessible to the public.



Most Significant Data Contributor Agency Winner

Capital Projects SDE layers & CFCC Road Data

Department of Transportation

Mike Demmon, Tom Wampler, Brent Payne

The Fairfax County Department of Transportation (FCDOT) has contributed several different sets of data for staff and the greater public to expand their understanding of FCDOT operation and interactions with other agencies. Three datasets were submitted for consideration of this award. The first is the creation of a new capital projects GIS layer that was previously kept in a non-GIS desktop database. These data have been very valuable to staff throughout FCDOT, DPZ, DPWES, and others. The second contribution was the establishment of census feature class codes (CFCC) to characterize the nature of roadways for GIS analysis, routing, and modeling efforts. Highways, local roads, cul-de-sacs, overpasses, and other road segments were identified throughout the County. Tysons Plan Data were created to support planning agencies for Tysons Corner development initiatives. Much of the information was integrated into the official Comprehensive Plan. The primary contribution was the completion of the 2050 Tyson's road network.

Best GIS Integration or Application Development Agency Winner

Park & Ride Analysis Tool

Department of Transportation

Mike Demmon, Caijun Luo

DOT has created a new application that allows for its transportation analysts to perform comprehensive analyses of current and proposed Park & Ride (PnR) lot locations in Fairfax County. These analysis results have been used to create a predictive demand model for potential PnR lot locations. Using information from PnR users' addresses from license plate surveys, locational and demographic information were used to create a dynamic GIS tool. This ArcMap toolbar provides planners with an efficient and streamlined method of identifying PnR needs, pinpointing effective sites, and creating an immediate impact on high use PnR's. FCDOT worked with the Virginia Department of Transportation and the Michael Baker Jr. Corporation to complete this tool.



Most Significant Progress Agency Winner

Department of Housing & Community Development

Diane Jenkins, Peter Uhrmacher

Despite the departure of a highly capable GIS analyst, the Department of Housing & Community Development has continued to improve and expand integration of GIS technology into its varied missions. Reaching far beyond its first adoption as a simple mapping tool, GIS technology has grown into an important resource for environmental review, housing density analysis, site determination, and resource identification. DHCD has committed itself to GIS staff education and continues to explore additional applications to support the varied missions and projects of the department.



List of All Excellence Award Entries

GIS Cartographic Product/Presentation

- Travel Time from Fire Stations– Keg Good; FRD
- Phase I Dulles Rail Transportation Improvement District– Marsha Collins, DPZ
- H1N1 Vaccination Coverage– Adrian Joye, Nahla Hilmi; HD
- Telecommunication Facilities in Parks– Buddy Rose; FCPA
- Sully District Parks– Buddy Rose; FCPA
- Lake Fairfax Dam Study– Buddy Rose; FCPA
- Residential Storm Drainage & Infiltration– Chip Galloway; DPWES
- 2008-2009 Youth Crash Map – Brandi Horita; FCPD
- Ballfield Inventory Map– Lynne Johnson; Buddy Rose; Andy Galusha; Matt Cowan; FCPA
- Inventory of Historic Sites– Harry Rado, Indrani Sistla, Laurie Turkawski, Linda Cornish Blank, Greg Chase; DPZ
- Environmental Mapping - Reston Master Plan Special Study– Harry Rado, Heidi Merkel, Faheem Darab, Richard Lambert, Sandi Beaulieu; DPZ
- Daytime Apartment Burglary Series– Emily Buono; FCPD

Use of GIS for Analysis

- Travel Time from Fire Stations– Keg Good; FRD
- Effect of New Roads & Fire Station at Belvoir North– Keg Good; FRD
- Usage of AVL data to Determine Effectiveness of Fairfax County Patrol Officer Routes– Jeff Gallagher; FCPD
- Neighborhood Stabilization Program– Diane Jenkins; HCD
- Fairfax County Gold Burglary Series– Camie King; FCPD
- The Environmental Process Review– Peter Uhrmacher ; HCD
- Reston Spectrum Redevelopment Project– Daniel White, DPZ
- Field Assessments to Help Prioritize Natural Resource Management– Erin Stocksclaeder; FCPA
- NGA Employee Office Distribution– Tom Wampler; Walter Daniel; Mike Demmon; Glenn Hiner, DOT
- Ballfield Inventory Map – Lynne Johnson; Buddy Rose; Andy Galusha; Matt Cowan; FCPA
- Halloween Weekend DUI/DWI Directed Patrol– Brandi Horita; FCPD
- Old Colchester Park & Preserve– Buddy Rose; Sandy Stallman; FCPA
- Fire & Rescue Incidents - FY 2010– Eric Fisher, Keg Good; FRD
- Southwestern Elementary Schools– Tom Mantzoros; FCPS
- Setback Analysis of Zoning Applications along Richmond Highway– Meghan Van Dam, Aaron Klibaner, Daniel White, Allison Clark; DPZ



Use of GIS on the Web

[DPZ website](#)– Department of Planning & Zoning
[Tier II Manager Emergency Response](#)– Fire and Rescue Department
[Great Parks, Great Communities](#)– Fairfax County Park Authority

Use of GIS for Public Outreach

[Neighborhood Stabilization Program](#)– Department of Housing & Community Development
[Great Parks, Great Communities](#)– Fairfax County Park Authority
[South County APR website](#)– Department of Planning & Zoning
[Completed Storm Drainage Maintenance Projects](#)– Department of Public Works & Environmental Services – Maintenance & Stormwater Management Division

Significant Data Contributor

[Capital Projects SDE layers & CFCC Road data](#)– Department of Transportation
[Police ESZ's](#)– Fairfax County Police Department
[Ballfield Inventory Map](#)– Lynne Johnson; Buddy Rose; Andy Galusha; Matt Cowan; FCPA
[Tysons Comprehensive Plan](#)– Office of Community Revitalization & Reinvestment
[Comprehensive Plan Amendment Database Update North County](#)– Department of Planning & Zoning

GIS Integration or Application Development

[Park & Ride Analysis Tool](#)– Department of Transportation
[WebEOC Mapper](#)– Office of Emergency Management
[Land Survey Branch Cataloged Projects](#)– Department of Public Works & Environmental Services – Land Survey Branch

Significant Progress

[Department of Planning & Zoning](#)
[Fairfax County Park Authority](#)
[Office of Community Revitalization & Reinvestment](#)
[Department of Public Works & Environmental Services, Maintenance and Stormwater Division](#)



List of Department & Agency Exhibitors at the Fairfax County GIS Day Technology Exhibition

Government Center North Atrium, 11 a.m. to 2 p.m.

- Department of Public Works & Environmental Services Agencies
 - Urban Forest Management Division
 - Maintenance & Stormwater Management Division
- Fairfax County Park Authority
- Police Department
 - Crime Analysis
 - CAD/911 support
- Fire & Rescue Department
- Department of Planning & Zoning
- Office of Community Revitalization & Reinvestment
- Department of Housing & Community Development
- Health Department
- Department of Information Technology, GIS & Mapping Services Branch
- Town of Herndon